

REMARKS

Claims 1-21 are pending in this application for the Examiner's review and consideration. New claims 18-21 were added. *See* Instant Specification, page 27, lines 3-8. Claims 1-17 were amended to more clearly recite the invention. Claims 1, 9, 12, and 15 were amended to recite that in Equation (1), $W_2/W_1 \geq 1.5$. *See* Instant Specification, page 17, lines 24-25. No new matter is added by these claim amendments so that their entry at this time is warranted.

Rejection Under 35 U.S.C. 102(b)

Claims 1-5, 7-8, 12-14, and 15-17 were rejected under 35 U.S. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,153001 to Suzuki *et al.* ("Suzuki") for the reasons set forth on pages 2-4 of the Office Action. Applicant respectfully traverses the rejection for the reasons that follow.

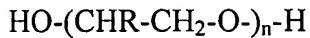
Suzuki discloses an inkjet ink comprising water, an aqueous organic solvent, a surfactant, and a self-dispersible pigment, wherein the ink has the following characteristics:

- (a) the number average particle diameter of dispersed particles of the pigment is from 15 to 100 nm;
- (b) the mv/mn is less than or equal to 3 (wherein mv is the volumetric average particle diameter of the dispersed particles of the pigment and mn is the number average particle diameter of the dispersed particles of said pigment);
- (c) the number of particles having a particle diameter greater than or equal to 0.5 μm among the dispersed particles of the pigment contained in one liter of the ink is less than or equal to 7.5×10^{10} ;
- (d) the surface tension of the ink is less than or equal to 60mN/m;
- (e) the electroconductivity of the ink is from 0.05 to 0.4 S/m; and
- (f) the pH of the ink is from 6 to 11. Suzuki, col. 2, lines 13-37.

The present invention is directed to an inkjet ink comprising a pigment, a water-soluble solvent and water, the water-soluble solvent comprising:
a first water-soluble solvent group comprising a water-soluble solvent represented by the following general formula (I) and having a solubility parameter SP_1 ; a second water-soluble solvent group comprising a water-soluble solvent having a solubility parameter which is at least 1 greater than the solubility parameter SP_1 and; a third water-soluble solvent group comprising a water-soluble solvent having a solubility parameter which is at least 1 less than the solubility parameter SP_1 ; wherein

respective contents (% by mass) of the water-soluble solvent groups contained in the inkjet ink satisfy the following equation (1) and the following equation (2):

General formula (I)



Equation (1)

$$W_2/W_1 \geq 1.5$$

Equation (2)

$$0.25 \leq W_3/W_1 < 0.75,$$

wherein in general formula (I), equation (1) and equation (2), n represents an integer of 3 to 6; R represents hydrogen or a methyl group; W_1 represents a content (% by mass) of the first water-soluble solvent group contained in the inkjet ink; W_2 represents a content (% by mass) of the second water-soluble solvent group contained in the inkjet ink; and W_3 represent a content (% by mass) of the third water-soluble solvent group contained in the inkjet ink. The present invention is also directed to inkjet recording methods using inkjet inks similar to that described above.

To anticipate a claim, a reference must teach each and every element of the claim.

Manual of Patent Examining Procedure (MPEP) § 2131. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 914 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicant submits that Suzuki does not disclose each and every element of the rejected claims of the present invention for the following reasons.

Regarding amended independent claims 1, 12 and 15, Applicant asserts that Suzuki does not disclose each and every limitation (or element) of the claim. For example, Suzuki does not disclose an ink wherein the ratio of the second water-soluble solvent group to the first water-soluble solvent group (W_2/W_1) is greater than or equal to 1.5. For at least this reason, Suzuki does not anticipate independent claims 1, 12, and 15, as amended. Nor does Suzuki render these claims obvious, as Suzuki is silent regarding the significance of the range of the second water-soluble solvent to the first water-soluble solvent. As stated in the present specification, the excellent long-term stability, optical concentration, and water resistance of the present invention, along with the suppressed bleeding, is due to features such as the W_2/W_1 ratio. Instant Specification, page 14, lines 5-9. Accordingly, there would be no expectation of success in applying the teachings of Suzuki to achieve the features recited in the claimed invention. For at least this reason, Suzuki neither anticipates nor renders obvious

independent claims 1, 12, and 15 of the present invention, or their respective dependent claims 2-5 and 7-8, 13-14, and 16-17.

Rejection Under 35 U.S.C. 103

Claims 9-11 were rejected under 35 U.S.C. § 103 as allegedly being obvious over Suzuki in view of U.S. Patent No. 4,740,420 to Akutsu *et al.* (“Akutsu”). Applicant respectfully traverses the rejection for the reasons that follow.

Akutsu discloses a recording medium for ink-jet printing treated with a water-soluble metal salt, the metal valence of which is 2 to 4, and a cationic organic material. Akutsu col. 1, lines 55-58. The treatment improves the resistance of the printed images to water. Akutsu, col. 1, lines 59-60.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art references must teach or suggest all of the claim limitations. See Manual of Patent Examining Procedure (MPEP) § 2142, citing *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). Applicant submits that these criteria are not met in this case for the following reasons.

Amended independent claim 9 comprises most of the limitations of independent method claims 12 and 15, including the limitation wherein the ratio of the second water-soluble solvent group to the first water-soluble solvent group (W_2/W_1) is greater than or equal to 1.5. As stated above in the section of the Remarks regarding the rejection under 35 U.S.C. § 102(b), Suzuki does not disclose or suggest all of the limitations of independent claims 12 and 15, including the limitation wherein the ratio of the second water-soluble solvent group to the first water-soluble solvent group (W_2/W_1) is greater than or equal to 1.5. Akutsu neither discloses nor suggests anything to resolve this deficiency. Accordingly, the combination of Suzuki and Akutsu does not teach each and every limitation of claim 9. Moreover, there would be no reasonable expectation of success in combining Suzuki and Akutsu to achieve the claimed invention, because, as discussed above, there is no teaching in Suzuki regarding the significance of the range of the second water-soluble solvent to the first water-soluble solvent. And Akutsu does nothing at all to resolve that deficiency. Therefore, the combination of Suzuki and Akutsu does not render obvious dependent claims 10-11, as this combination does not render obvious the independent claims from which these claims depend. For at least this reason, the combination of

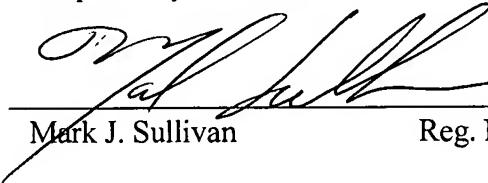
Suzuki and Akutsu does not render obvious claims 9-11 of the present invention.

CONCLUSIONS

It is respectfully submitted that all claims are now in condition for allowance, early notice of which would be appreciated. Should the Examiner disagree, Applicant respectfully requests a telephonic or in-person interview with the undersigned attorney to discuss any remaining issues and to expedite the eventual allowance of the claims.

No fees are believed to be required for this submission. Should any fees be required, however, please charge those fees to Morgan, Lewis & Bockius LLP deposit account no. 50-0310.

Respectfully submitted,



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